

Appendix I

Determinative Tables

(a) Transmitted Light

Mineral	Color	Relief	Birefringence	Other
Plagioclase	colorless	low	1 st order gray	polysynthetic twinning
Olivine	colorless	high	2 nd order yellow	melt inclusions
Clinopyroxene	tan to red-brown	high	1 st order red to 2 nd order blue	optically zoned, commonly fractured
Orthopyroxene	colorless	high	1 st order yellow	parallel cracks, difficult to distinguish from olivine
Pyroxferroite	yellow	high	1 st order yellow	rare, spongy texture, found adjacent to glass or silica in mesostasis
Silica	colorless	very low	gray	cracked
Glass	variable	- - -	isotropic	many colors including colorless
Pleonaste	red	very high	isotropic	zoned, high reflectivity
Zircon	colorless	very high	gray	unzoned, high reflectivity
Phosphate	colorless	low	gray	needles and spongy masses in mesostasis

(b) Reflected light

Mineral	Color	Reflectivity	Anisotropy	Other
Ilmenite	gray	high	strong	most abundant opaque in lunar samples, thin laths are slightly transparent, red-brown
Chromite	brownish-gray	high	isotropic	hexagonal outlines, often overgrown by ulvöspinel
Ulvöspinel	brown	high	isotropic	hexagonal outlines, frequently exsolved
Rutile	light gray	high	little	exsolution lamellae in ilmenite
Armalcolite	gray	high	moderate	hexagonal barrel-shaped habit
Tranquillityite	gray	high	isotropic	tiny laths in glassy mesostasis, slightly transparent red
Fe-Ni metal	bright white	very high	isotropic	frequent blebs in troilite
Troilite	yellow	very high	strong	soft, scratches